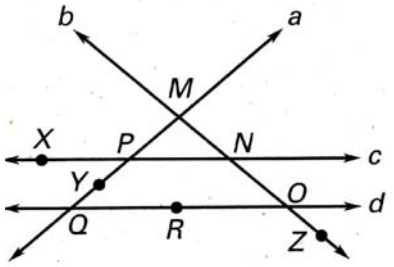
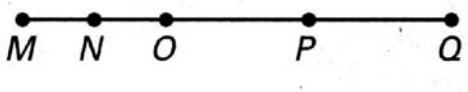
GEOMETRY MIDTERM REVIEW

1. Use the diagram to name all points that are collinear to points *P* and *Q*.



Use the diagram to find where MQ= 30, MN = 5, MN=NO, and OP=PQ.

2. Find the length of $\overline{OQ}$.



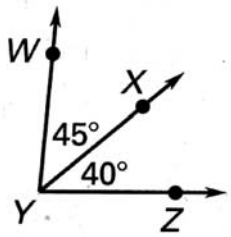
3. A rectangular window pane is 40 inches by 50 inches.

a. Find the area of the window pane.

b. Find the perimeter of the window pane.

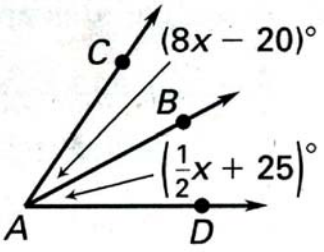
c. A frame around the window pane is 1.5 inches wide. Find the area of the window pane, including the frame. With the frame, by what percent did the area increase to the nearest hundredth?

4. Find the measure of $m\angle WYZ$.



5. Find the midpoint of a segment with endpoints A(-8, 5) and B(-2, 7).

6. $\overrightarrow{AB}$ bisects $\angle CAD$. Find the value of x.

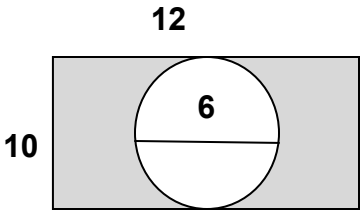


7. Find the value of *x*.

8. Find the area of a triangle with a base of 22 m and a height of 6 m.

9. Find the area of the shaded region.

The diameter of the circle is 6.
Use = 3.14.



10. Solve 5x = -10, then choose the property that applies to the required step.

Substitution property

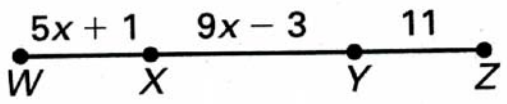
Addition property

Division property

Distribution property

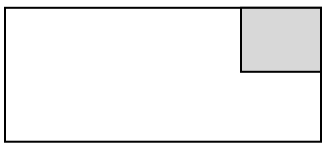
Subtraction property

11. In the diagram, $\overline{WX} \cong \overline{YZ}$. Find the length of $\overline{XZ}$.

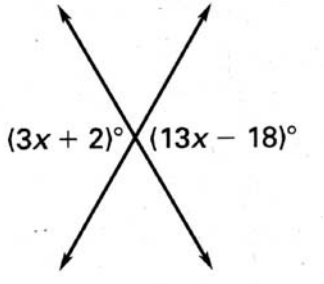


12. $\angle 1$ and $\angle 2$ are complementary. If $m\angle 1$ is 27^0, what is $m\angle 2$?

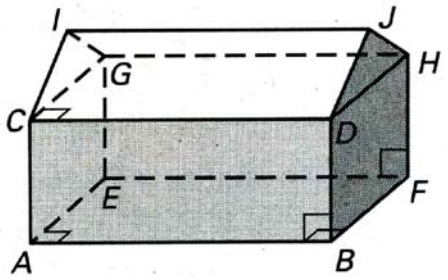
13. The Osceola City Council approved final plans on the new housing development. The council determined that approximately 45 new homes could fit in the shaded region. If the entire area is filled with new homes, how many new homes should the council ESTIMATE can be built in the new area. Explain your answer.



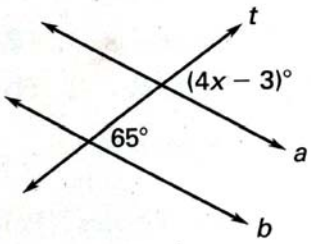
14. Solve for *x* in the diagram.



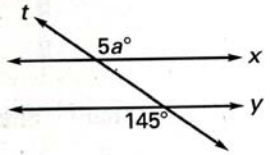
15. Use the diagram below. Think of each segment as part of a line. $\overleftrightarrow{AC}$ and $\overleftrightarrow{HG}$ are?



16. Find the value of x when a ∥ b.



17. What value of "*a*" would make lines *x* and *y* parallel?



18. Find the slope of the line that passes through A(5, 8) and B(7, 11).

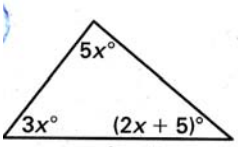
19. Decide whether the lines with the given equations are perpendicular, parallel, or neither.

. $y = \frac{1}{2}x + 3$

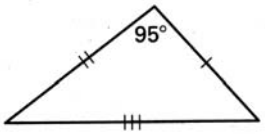
$y = \frac{1}{2}x - 3$

20. Find the measure of $\angle 1$.

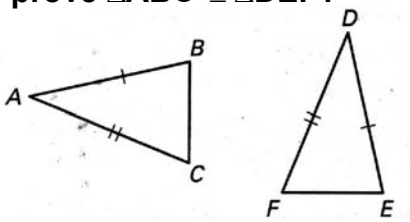
21. Find the value of *x*.



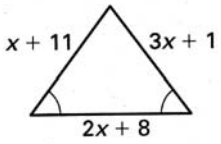
22. The classify the triangle by side and angles _____ .



23. Use the diagram. Which additional congruence is needed to prove $\triangle ABC \cong \triangle DEF$?

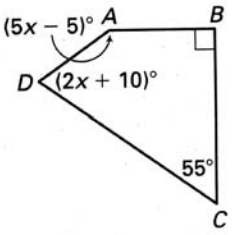


24. What is the value of x?

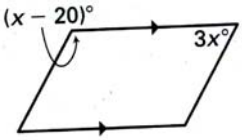


25. A right triangle has legs of 24 units and 18 units. The length of the hypotenuse is _____?

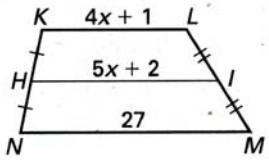
26. Find the value of x.



27. What value of x will make the quadrilateral a parallelogram?

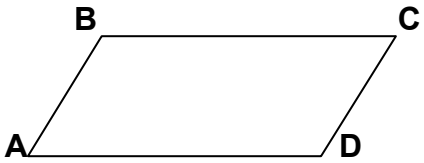


28. Find the length of $\overline{KL}$ in the trapezoid .

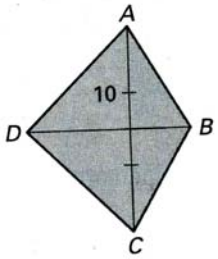


29 . Given ABCD is a parallelogram. BC= 7x +13; AD = 5x + 25: m∠BAD = 8x. Explain how to determine m∠BCD.

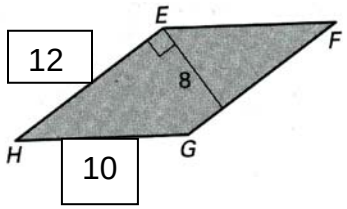
What is m ∠BCD?



30. The area of the kite is 150 square inches. Find the length of $\overline{BD}$.

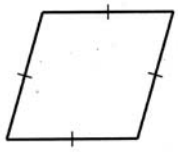


31. Find the area of parallelogram EFGH.



32. A right triangle has legs of 15 units and 20 units. What is the measure of the hypotenuse?

33. This quadrilateral is most specifically a _____

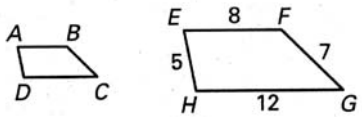


34. Find the area of a square with a perimeter of 30 cm.

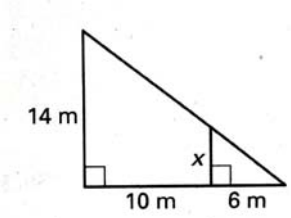
35. The perimeter of a rectangle is 72. The ratio of the lengths of the sides is 4:14. What are

the lengths of the sides?

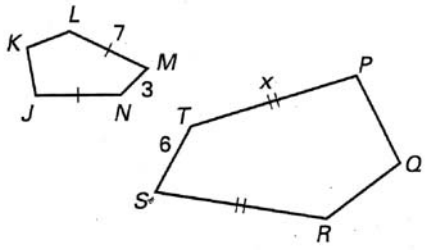
36. ABCD~EFGH. The perimeter of ABCD is 16. What is the length of $\overline{BC}$?



37. Find the length of *x* in the diagram.

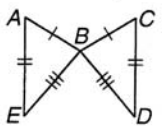


38. Find the value of x. JKLMN ~ PQRST



39. A rectangle that has a width of 5 inches and length of 20 inches is similar to a second rectangle with a length of 16 inches. What is the *width* of the second rectangle?

40. Name the congruent triangles in the diagram?



1. m & y

2. 20

3. a. 2000in^2 b. 180 in c. 2279 in^2 13.95%

4. 85

5. (-5, 6)

6. 6

7. 7

8. 66 m^2

9. 91.74

10. division property

11. 26

12. 63^0

13. 360 new homes

14. 2

15. skew

16. 17

17. 29

18. 3/2

19. parallel

20. 85

21. 17.5

22. scalene, obtuse

23. $\angle A \cong \angle D$; SAS;; $BC \cong EF$; SSS

24. 5

25. 30

26. 30

27. 50

28. 17

29. 48^0

30. 15

31. 96

32. 25

33. rhombus

34. 56.25 cm^2

35. W = 8 L = 28

36. 3.5

37. 5.25

38. 14

39. 4

40. $\Delta BAE \cong \Delta BCD$